



MEASURING DEVICES

Pore Pressure Measuring Device

The pore water pressure apparatus is in principle a 'U' tube filled with mercury. One branch of 'U' is connected through a coiled copper tube to the base of the test specimen, the other end is coupled to a closed system having a screw control hand pump, pressure gauge and a manometer. By increasing or decreasing the back pressure by the screw control, the mercury level can be maintained at a 'null point'. The pressure required to maintain the mercury at its null point is thus equal to pore pressure at the base of the soil specimen. Based on Bishop and Hankel design, the pore pressure unit has a manifold null indicator in which additional air vents and mercury traps have been provided for quick and easy de-airing before test.

●● HS28.70

Pore Water Pressure Apparatus (0-1000kpa)

Pore water pressure apparatus mounted on a steel panel, fitted with pressure gauge, mercury manometer, brass scale graduated 50-0-50 cm., drainage burette 50 ml, null indicator with copper coil, Piston pump (hand operated) and water reservoir.

Pressure range 0 - 1000 Kpa



HS 28.70

●● HS28.75

Pore Water Pressure apparatus (0-2000kpa)

Similar to HS28.70 but designed for higher pressure range of 0-2000 kpa.

Proving Ring

Clamped boss load ring is a sensitive piece of equipment for the measurement of load with high degree of accuracy. Repeatability of this ring is better than 0.2% of the indicated load. In general these rings confirm to IS 4169 Load range is very wide but most commonly used ring is HS 30.230

HS30.230 1000Kgf. (10kN)

Dial Gauges

For the purpose of measurement of strain, dial gauge is the most commonly used instrument. It is accurate and reliable.

HS29.15 Dial Gauge 0.01 x 20mm

HS28.580 Electronic Instrumentation for Triaxial test.

Electronic measuring system for Triaxial setup :- 4 channels data acquisition system for Triaxial setup.

The unit has been developed to provide a modern and simple alternative to mechanical measuring system. This system monitors all the parameters of drained or un-drained Triaxial test namely axial load, pore pressure, axial strain. Volume change measurement is optional. All the parameters are displayed in their respective engineering unit. Membrane type key board is provided for programming time interval, day & date. Communication port RS232 has been provided for interfacing with the computer.

Sensors Load Cell -10 kN Capacity

Pore Pressure transducers with de-airing block - 2000kpa

Displacement sensor - ± 20 mm

(Software Optional)

LATERAL PRESSURE SYSTEMS

These systems are basically for creating confining pressure in the triaxial cell that is sigma 2 and sigma 3. Selection is made from the various models listed below.)

FOOT PUMP TYPE

●● HS28.90

Lateral Pressure Assembly (0-10 kg/cm²)

It is a steel chamber that can be pressurized to the required pressure with foot pump. It has a pressure gauge, water inlet and outlet valve.



HS28.90



Self Compensating Pressure Apparatus (Oil/Water Type)

The system uses a hydraulic accumulator having a rotating ram, carrying dead weights to provide pressure in increments of 50kpa. During operation, the pump is driven continuously by an electric motor to maintain the desired pressure. Required pressure is achieved by keeping combination of marked dead weights on the rotating ram.

A 100 mm dia pressure gauge is fitted on the top of the interchange vessel. All components are fitted on a common base plate, which carries four leveling screws for leveling the apparatus. This type of system is ideal for short duration tests.

●● HS28.116

Self Compensating Pressure Apparatus (Oil/Water Type)

Pressure range 50-1000 kpa

Designed for a pressure range of 1000kpa in steps of 50kpa. Suitable for operation on 220 Volts, 50 Hz, single phase power supply.



HS28.116

●● HS28.117

Self Compensating Pressure Apparatus (Oil/Water Type)

Pressure Range 50-2000 kpa

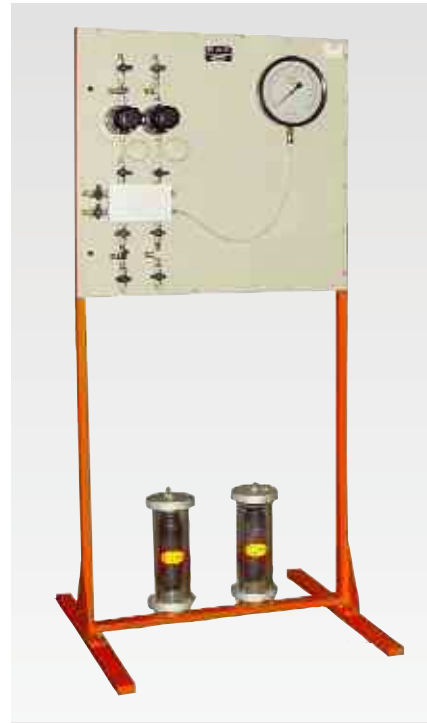
Similar to HS28.116, but designed for a pressure range of 2000kpa in steps of 50kpa. Suitable for operation on 220 V, 50 Hz, single phase power supply.

Pneumatic Control Panel

This is a new product from HEICO and is most widely and commonly used constant pressure system.

It has multiple lines that can be kept at different levels for confining pressure and back pressure.

Number of lines can be operated with a single source of air. Advantage in this type of system is that it is not fully dependent on electricity. If the tank is pressurized, pressure can be maintained for at least 2-3 hrs without electricity. Each line is provided with air/water interface chamber.



PNEUMATIC CONTROL PANEL

Various models are:-

HS28.118 2 lines with 2 interface chambers. Pressure range 1000kpa

HS28.119 4 lines with 4 interface chambers. Pressure range 1000kpa

HS 28.120 6 lines with 6 interface cham-

bers. Pressure range 1000kpa
(Note:- Higher Pressure models on request)

OPTIONAL ACCESSORIES :

●● HL102.05

Compressor

In busy laboratories, where several pressure outlets are needed for different tests, the use of central air compressor is very economical. Using pressure regulators (supplied on order) desired regulated pressures can be tapped out from the same compressor maintaining pressure slightly more than the desired test pressures.

Compressor - Single Stage

Compressor of 3HP. It can create max pressure of 1000kpa. Operates on 220 volts single phase supply.



HL102.05

De-airing system with vacuum arrangement.

It has a vacuum regulator, 20 liter water chamber and additional line for vacuum and vacuum gauge.

HL102.05 Single stage. Pressure range 0 - (-)100kpa



VACUUM PUMP